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A METHOD OF PROVIDING SYNCHRONOUS TRANSPORT OF PACKETS BETWEEN
ASYNCHRONOUS NETWORK NODES IN A FRAME-BASED COMMUNICATIONS
5 NETWORK

ABSTRACT OF THE DISCLOSURE

A method of providing synchronous transport of packets
between asynchronous network nodes, each asynchronous network
10 node having a local clock and transmitting and receiving packets
to and from the asynchronous network according to an asynchronous
network media access protocol. An asynchronous network node
capable of transmitting and receiving packets on the asynchronous
network is designated as a master node. Each non-master
15 asynchronous network node which desires to synchronously
transport packets across the asynchronous network as a slave node
and each slave node is designated as a slave node. A master node
clock of the master node is synchronized with a slave node clock
of each slave node. A best arrival time for the reception by the
20 master node of each particular packet transmitted by each
particular slave node is determined at the master node. Best
arrival times for packets transmitted from slave nodes to the
master node are communicated from the master node to the slave
nodes. Best packet assembly times for packets to be transmitted
25 by the particular slave node to the master node in the future in
order for the packets to be received by the master node at future
master clock referenced best arrival times. Each slave node clock
is continuously corrected compared with the master node clock to
smooth slave clock error to an average of zero compared with the
30 master clock as a reference in response to a message from the
master node. Packets for transmission at slave nodes according
to determined future best packet assembly time information.
Packets at slave nodes are then transmitted according to the
determined future best packet assembly time information.

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